

# • COLORADO RIVER • AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT



OF SOUTHERN CALIFORNIA

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No. 9

## New Long Term Boulder Power Contracts Bring District a Total Gain of \$47,000,000

On September 7, 1945 the Board of Directors of the District authorized the execution of three contracts under which all of the District's unused firm energy at Boulder Dam and the equivalent of all of the District's energy from Parker power plant was sold to the Department of Water and Power of the City of Los Angeles, Southern California Edison Company, Ltd., and the California Electric Power Company for the period from June 1, 1945 to May 31, 1987, when the Boulder energy contract terminates.

These three contracts, known respectively as the District's 1945 Resale Contract, the 1945 Collateral Contract, and the District-Edison Contract, will result in benefits to the District totaling ap-

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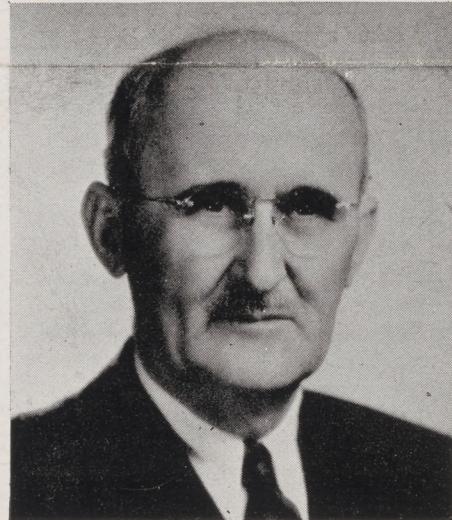


## Authority to Serve Outside Areas Ended

Special wartime regulations under which Metropolitan Water District aqueduct water was made available for the period of the military emergency to areas outside the boundaries of the District were rescinded by the Board of Directors at its meeting on September 7.

Seeking to support, safeguard and advance to the fullest possible extent war production of Southern California in every section, the District Board in June 1942 unanimously adopted special water service regulations under which aqueduct water was made available to areas outside the boundaries of the District. Under these regulations an area organized as an incorporated city or local water district was extended the privi-

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Representing the Metropolitan Water District in negotiating three Boulder Dam power contracts recently drawn up were (top center) Director Perry H. Greer, Chairman of the Board's Power Committee, and (bottom row, left to right) General Counsel James H. Howard, General Manager and Chief Engineer Julian Hinds, Chief Electrical Engineer James M. Gaylord.

COLORADO RIVER  
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 THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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## Outside Areas

(Continued from page 1)

lege of obtaining aqueduct water by making certain payments, and without the requirement of annexation to the District.

The regulations permitted such outside areas engaged in war production to purchase aqueduct water by contract, and it was specifically provided at the time the regulations were adopted that this temporary extension of the assurance of aqueduct water was to be limited to the period of actual warfare.

Contracts under which the District is supplying water to Camp Haan, the Spadra Naval Hospital and to other military institutions were not terminated or affected by the Board's action in rescinding the special regulations authorized in 1942.

Prior to the adoption of the special regulations, the service of Colorado River Aqueduct water, except in the instances of Government institutions, was limited to areas within the boundaries of the District. Abolition of the special wartime regulations re-establishes this policy. Areas outside the boundaries of the District may secure the right to permanent aqueduct water service by annexation to the Metropolitan Water District in accordance with conditions approved by the Board of Directors. The legal steps by which annexation is effected are set forth in the Metropolitan Water District Act originally adopted by the State Legislature in 1927.

It has been pointed out by the Board of Directors that when an outside area annexes to the District it is thereby assured a dependable and permanent aqueduct water supply under the same terms and conditions that apply to the constituent cities which in the early days of the aqueduct project assumed the obligations of financing and building the giant water supply system.

## Power Contracts

(Continued from page 1)

proximately \$47,000,000 over and above the returns that could be expected under the power contracts now in effect.

### Benefits Set Forth

This increase in income includes approximately \$32,000,000 from the sale of unused energy at rates higher than the rate for secondary energy at Boulder Dam; nearly \$11,000,000 for use by other agencies of generating capacity at Boulder power plant, for which the District is obligated to pay but which would remain largely unused except for the proposed contracts; and over \$4,000,000 for the transmission of energy for the Edison Company by utilizing capacity in the District's transmission system.

### Aqueduct Power Required

The large block of unused Boulder power is made available for sale by reason of the fact that the Metropolitan Water District in 1930 found it necessary to contract with the Federal Government for the purchase of 36 per cent of the firm energy from the dam in order to obtain a permanent right to enough of this power to meet the ultimate requirements of Colorado River Aqueduct pumping plants.

During the early years of aqueduct operation when only a part of the water carrier's capacity is required, a correspondingly small part of the District's share of Boulder power is needed to operate the pumping plants. Nevertheless, the District is committed to pay for this unused energy if it is not taken up by other agencies.

### Power Sale Assured

During the period of the war the District was relieved of practically all of the unused power charge by the sale of this energy to the war metal plant of Basic Magnesium, Inc., located near Las Vegas, Nevada, and to various power users in Arizona and California. Under the recently negotiated contracts the District is assured of selling all of its unused Boulder power throughout the period of its purchase contract which terminates in 1987. Over the contract period the District will receive about \$32,000,000 more for this energy than if it were disposed of at the secondary or "dump" rates provided for in long standing Government contracts. At the same time the District will retain

the right to use whatever Boulder power it may require from time to time to operate aqueduct pumps.

### Generator Costs Reduced

The 1945 Collateral Contract is of marked benefit to the Los Angeles municipal electric system, to other Boulder power agencies and to the District. It gives these other agencies the assured use of the unused capacities of the District's generators at Boulder and it relieves the District of a heavy financial burden. This financial benefit to the District over the contract period is estimated to total nearly \$11,000,000.

The District-Edison Contract likewise confers a decided economic benefit to the Edison Company and to the District. Under this contract the Edison Company will be able to transmit a large block of Boulder energy for a distance of 177 miles over the District's pumping plant power lines. From Hayfield pumping plant, the western terminus of the District's lines, the Edison Company is now building a power line that will carry the energy on westward to receiving stations at Chino and Highgrove. Thus, transmission capacity on the District's power lines that otherwise would remain idle is put to economic use. The company is relieved of the cost of a duplicating line and the District obtains a rental which during the period of the contract will total \$4,000,000.

### District Well Represented

Some two years ago Chairman W. P. Whitsett appointed five Directors on a special power committee to represent the Board in the complicated negotiations. Chairman of the Board power committee is Director Perry H. Greer of Los Angeles. Directors serving with Mr. Greer on the power committee are Otto J. Emme of Los Angeles, Samuel G. McClure of Santa Monica, Herman Nelson of Glendale and Arthur Taylor of Beverly Hills.

Chief Electrical Engineer James M. Gaylord represented the District's engineering staff in working out the broad outlines and the intricate details of the contracts. His advice and recommendations contributed heavily to the solution of the many problems.

General Counsel James H. Howard brought to the negotiations a profound knowledge of the complex legal background of Boulder Dam and Colorado River legislation and contracts.

Watching over all sides of the negotiations was General Manager and Chief Engineer Julian Hinds.

# ● MONTHLY REPORT ●

(EDITOR'S NOTE: The following is a brief summary of some of the activities of the District as set forth in the monthly report of General Manager Julian Hinds, filed with the Board of Directors in September 1945, covering work done in August 1945.

## Operation and Maintenance

**General**—Delivery of natural Colorado River water from Lake Mathews to the U. S. Army for Camp Haan averaged 1,150,000 gallons per day and of softened water to the Navy for Spadra Hospital 267,000 gallons per day. Delivery of softened Colorado River water to member cities in the August period reached a new high at 93 cubic feet per second or 60,107,000 gallons per day.

Units N5 and N6 at Boulder power plant supplied power to the District system and to the Basic plant. Energy delivered to the Basic plant in August totaled 14,334,975 kwhr compared with 14,509,125 in July. The maximum power load was 28,856 kw.

**Parker Dam**—The water level in Lake Havasu was gradually raised from elevation 447 feet on August 1 to practically full reservoir on August 15 and held there during the second half of the month. Discharge of the Colorado at Parker Dam varied between 9,416 and 15,880 cubic feet per second and averaged 12,493 for the month compared with 14,913 in July and 15,682 in June.

**Parker Power Plant**—The Parker power plant was in parallel with the District transmission system 24 hours a day from August 1 to 18, and from August 20 to 25, except for two system disturbances; and for 12 to 16 hours on each of the remaining days. Total energy delivered to the Parker system was 9,056,250 kwhr and received from Parker 507,000.

**Main Aqueduct**—The main aqueduct and reservoirs were patrolled and minor maintenance jobs were performed on patrol trips. Rainstorms passing over several sections of the aqueduct caused some damage to patrol roads.

**Pumping Plants**—Several electrical storms caused transmission system disturbances and several interruptions to telephone service. All maintenance crews were engaged in repairing storm damage in addition to regular maintenance of buildings and equipment.

**Distribution System**—A 400 cubic foot per second flow of Colorado River water was received at Lake Mathews starting August 10, there being pumped at Hayfield 11,990 acre feet. The increase in storage for the month was

5,364 acre feet to a total usable quantity of 79,352 acre feet. The rise in water level was 3.11 feet to elevation 1344.10 feet. Flow of water through the Softening and Filtration Plant averaged 92.4 cubic feet per second or 59,720,000 gallons per day compared with 48,860,000 in July. Hardness of the Colorado River water was reduced from an average of 351 to 125 ppm. Analyses were made of water samples from the entire aqueduct system. Softened water was delivered to Anaheim, Beverly Hills, Burbank, Compton, Fullerton, Long Beach, Los Angeles, Pasadena, Santa Ana, Santa Monica, and the Coastal Municipal Water District.

**Office Engineering and Design**—Drawings were completed for a connection to the Long Beach lateral at Delta Avenue in Long Beach and details were prepared for a connection to the Torrance lateral in Crenshaw Boulevard for service to the General Petroleum Corporation refinery.

**Hydrography**—Meetings of the Colorado River Board of California were attended and much time was given to other matters in connection with the Colorado River. Water level in Lake Mead reached a high point on August 20 at elevation 1182.49 with usable storage of 22,228,000 acre feet. The gains for the month were 1.31 feet in level and 177,000 acre feet in storage. The discharge of the river at Boulder Dam dropped to 7,885 cubic feet per second on August 5, and 9,122 on August 15, the V-J day holiday. The average discharge for the month was 14,241 cubic feet per second, compared with 14,034 in July.

**Right of Way**—At the citrus and walnut groves, regular irrigation, cultivation, and pest control were continued. One new reverse lease and 8 renewals were made, also one reverse rental.

**Purchasing**—The purchasing division issued 165 purchase orders in an approximate total of \$9,970.00. Freight forwardings consisted of one car of chlorine and 83 cars of sodium chloride to the softening and filtration plant. Cash salvage sales for the month amounted to \$400.45. The appraised value of salvage stock on hand at the end of the month amounted to \$241,277.11.

## Water Supply Facts Revealed in Report

A review of the Southern California rainfall record for the 1944-45 season as prepared by Hydrographic Engineer C. C. Elder was set forth in the June issue of the Aqueduct News. It revealed that in portions of the Coastal Plain rainfall during the past year was below normal and considerably less than the preceding year. At the same time, the analysis indicated that underground water levels were continuing to drop in the southwest (Inglewood-Redondo Beach) basin and in the large Chino basin of west San Bernardino County.

The lowering of local underground water levels in several heavy water-consuming areas was especially significant, the review pointed out, in view of the fact that during the eight years from 1937 to 1944, inclusive, Southern California experienced a record-breaking series of wet years with rainfall averaging 31 per cent above normal.

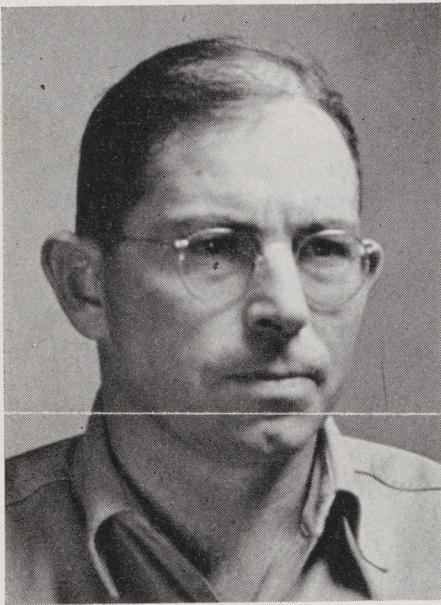
### Colorado River System

The following statement by Mr. Elder outlines the prospective available water supply of the Colorado River system for the season.

"For the Upper Colorado River Basin, snow surveys as of May 1, 1945 indicated a near normal flood runoff (April to July, inclusive) of about 9,000,000 acre feet into Boulder Canyon reservoir. In view of previous experiences, however, a forecast range of 6 to 12 million acre feet was specified to cover variables and uncertainties. It now appears that this flood runoff into Boulder Canyon reservoir will slightly exceed 8,000,000 acre feet, giving a maximum reservoir water surface elevation about 39 feet below the spillway gate crest of 1221.4 feet. This year's minimum water level was 1146.55 feet on April 25, 1945, the lowest in 7 years of operation since 1938."

"Due to the holdover storage in Lake Mead, its usable storage contents exceed 22,000,000 acre feet even in this subnormal runoff year. This indicates that water demands for as yet partially developed downstream projects will be safely supplied in any event, but generation of secondary power at Boulder Dam (long continued at a high rate as a wartime necessity) has had to be sharply reduced, in the absence of surplus flood runoff on which its production depends."

# NEWS FROM FIELD AND OFFICE



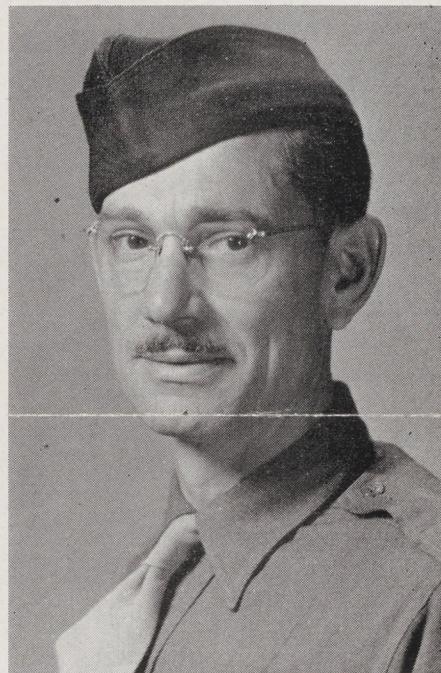
Charles R. Witt, who served with the Seabees for about three years with the rating of Gunner's Mate, 2nd Class, has obtained his honorable discharge from the Navy and is once more at his old job as Attendant at the Softening and Filtration Plant. He saw service in the campaigns in Africa and Sicily, on many islands of the South Pacific and finally in the Philippines. Witt is also a veteran aqueducter, having started on the aqueduct survey job as far back as 1928.

To the District men and women who celebrated their birthdays in September, congratulations and best wishes. They are:

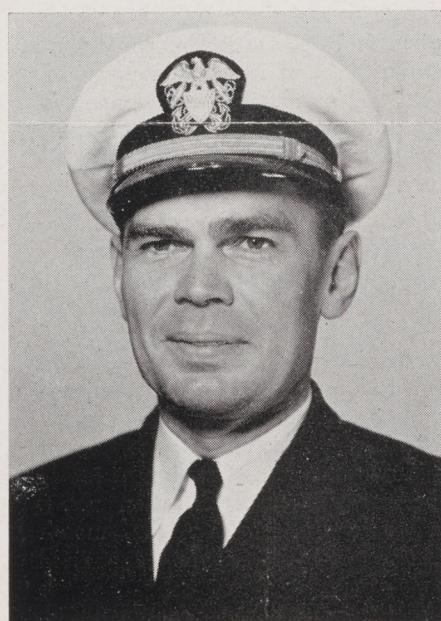
William W. Aultman, Water Purification Engineer, O. & M. (on military leave), September 23 . . . Jack R. Bickford, Division Patrolman, O. & M. (on military leave), September 5 . . . John T. Bone, Maintenance Man, O. & M., September 17 . . . Norman E. Darch, Station Machinist, Elec-Mech., September 4 . . . Floyd T. Day, Attendant, O. & M., September 12 . . . Marian C. Fletcher, Stenographer, O. & M., September 7 . . . Floyd F. Fox, Chemist, O. & M., September 6 . . . Charles B. Fraker, Station Machinist, Elec-Mech., September 11 . . . Joseph G. Glotzbach, Utility Man, Elec-Mech., September 27 . . . Hortense Helgesen, Assistant Controller, September 24 . . . Harlen Kerr, Laboratory Helper, O. & M., September 18 . . . Evelyn A. Middleton, Telephone Operator, O. & M., September 18 . . . Robert F. Montgomery, Maintenance

Helper, Elec-Mech., September 20 . . . Robert M. Peabody, Engineer, Sr., Elec-Mech., September 4 . . . George H. Pettigrew, Utility Man, O. & M., September 13 . . . William B. Ralph, Field Clerk, Elec-Mech., September 29 . . . Robert P. Ross, Clerk, Jr., Purchasing, September 26 . . . Dolores E. Sholz, Secretary to General Manager, September 24 . . . Floyd S. Stacy, Utility Man, Elec-Mech., September 15 . . . Fred Stehn, Maintenance Mechanic, Elec-Mech., September 30 . . . Clyde E. Taylor, Station Electrician, Elec-Mech., September 28 . . . Harold P. Vail, Engineer, O. & M., September 19.  
\* \* \*

Employees of the District were prepared to get away to a flying start on the Victory Chest drive which opened among public employees on September 24. Aqueducters realize full well that the military defeat of Germany and Japan has not diminished, but in many ways has increased the need for generous Chest contributions. There are the millions of men overseas and in America who will remain in military service for many long months and whose need for USO service now becomes more important than ever. And there are the scores of pressing social problems following in the wake of the sudden termination of war plant employment.



Following three years of military leave, during which time he served as Automotive Advisor with Army forces on the Pacific Coast, Eugene V. (Gene) Reynolds was back on the job this month as Maintenance Mechanic at the District's Los Angeles garage. An overseas veteran of World War I, Gene was given the responsibility during the recently concluded ruckus, of training soldiers to operate and maintain military motor vehicles.



Lieut. Carl Knoll of the Navy

One of those who helped guard the world's biggest and best kept secret was Margaret Swank, who was Secretary to the Executive Secretary of the Board when she took military leave in 1942 to join the WAC. As Sergeant Swank she was stationed for more than two years near Santa Fe, New Mexico, and there she did secretarial work for scientists who were assembling the atomic bomb. Recently she obtained her discharge from the WAC, and now as Miss Swank, civilian, she is performing secretarial duties at the New Mexico military post.

\* \* \*

Lieut. Carl Knoll expects to change his Navy uniform for civilian garb along about November 1, he reports. When the Japs were infesting the thousand and one islands of the Pacific, Carl saw duty in that theatre of war. He later attended the Princeton University School of Military Government. He is now on shore duty at San Diego.